DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D. C. 20360

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Miss Winnie M. Morgan
Technical Reports Officer
Office of Grants & Research Contracts
Office of Space Science & Applications
National Aeronautics and Space Administration
Washington, D. C. 20546

Dear Miss Morgan:

I am sorry for the delay in responding to your request for a final report on contract R91/09-30-007. I have been away from the Office on a number of field trips and have but recently returned. The final report on this contract is as follows; during the past decade the problems and potentials of new instrumentation techniques largely derived from the physical sciences have become a major concern in experimental biology. Although the biologist is eager to make use of the new tools and techniques in furthering his research activities, he has been overwhelmed by the avalanche of literature, claims, and counter claims regarding the validity and appropriateness of using many of these highly sophisticated modern tools. As a result, he has felt a need for objective expert assistance and guidance in selecting appropriate modern new equipment and techniques for furthering his research aspirations. In response to such a requirement the contract R91/09-30-007 was entered into by the NASA and the Office of Naval Research. This project established through the American Institute of Biological Sciences AD HOC Committee to suggest the most feasible mechanism which should be established to facilitate the biological utilization of the new technical developments. The AD HOC Committee met initially with the American Museum of Natural History in New York and recommended consideration of a national bioinstrumentation center and clearing house that could serve to advise biologists on appropriate new instruments and techniques. A meeting of this group held in Albquerque, New Mexico in May 1964, led to the construction of organizational plans for a national advisory "clearing house" on bio-instrumentation and also led to the recommendation that a comprehensive review paper on biotelemetry be formulated under the Chief editorship of Mr. Lloyd Slater, Associate Director of the Case Institute of Technology to be published in a special issue of Bio-Science.

On 23 and 24 November 1964, 16 members of an AD HOC Bio-instrumentation Advisory Council met at Case Institute of Technology in Cleveland. The title "Bio-instrumentation Advisory Council" was selected as being representative of the national clearing house concept. The membership

of the AD HOC Advisory Committee consisted of H. A. Baldwin - Sensory Systems Laboratory, F. Beam - American Institute of Biological Sciences, B. F. Bennett - U. S. Naval Research Laboratory, L. C. Cole - Cornell University, D. Fleming - Case Institute of Technology, S. R. Galler - Office of Naval Research, R. M. Goodman - Franklin Institute, D. R. Griffin - Harvard University, F. Haahn - E&M Instrument Company, G. J. Jacobs - National Aeronautics and Space Administration, W. Ko - Case Institute of Technology, C. H. Schmitt - University of Minnesota, L. Slater - Case Institute of Technology, J. Snodgrass - Scripps Institution of Oceanography, W. M. Taylor - Goodyear Aerospace Corporation, J. R. Tester - University of Minnesota. It was concluded that the goals of the Bio-Instrumentation Advisory Council (BIAC) would include:

Goals of BIAC

It was the AD HOC Council's recommendation that the charter objectives of BIAC would be to--

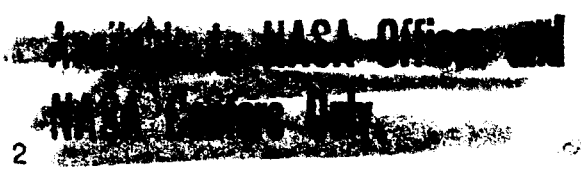
1. Facilitate directed information flow between biological and physical scientists when appropriate in the interests of improving experimental biology.

2. Evaluate the current status of the application of the physical sciences to biological problems and to initiate and support the extension and/or development of widely applicable new techniques.

3. Prepare surveys and/or summaries of the comtemporary status of instrumentation for biologists.

Also it was concluded that the BIAC would function as follows: 1. It would serve as a steering and clearing house to funnel biological instrumentation problems to appropriate "experts" in the field of instrumentation. 2. It would review and evaluate proposals and problems dealing with instrumentation that might be presented to it by its agency sponsor (NASA, ONR, or AIBS). 3. It would recommend an appropriate sponsor for prototype research projects aimed at evaluating the bio-instrumentation potential of exciting new developments in the physical and engineering sciences.

The AD HOC Council has recommended that the permanent membership of the council should be established on a rotating basis, the members to be appointed by the AIBS with concurrence by the sponsoring agencies. Also it was strongly recommended in order to insure continuity of this important project that an executive secretary or director be appointed. This person having broad experience and high competence in the field of bio-instrumentation, would be responsible for insuring that the work of the BIAC was carried out and would be also responsive to the needs of the sponsors



in the field of bio-instrumentation. Finally, a steering committee consisting of representatives of all of the sponsoring agencies as well as a representative of the council would be established with the executive secretary as ex-offico member. This steering committee would serve to insure full coordination and translation of the requirements of the sponsoring agencies into a coordinated national program. It could be implemented by the BIAC through its executive director.

The conslusions resulting from the work performed as described above are that a genuine need exists for a bio-instrumentation advisory council and that such a council has come into existance under NASA R91/09-30-007.

I wish to take this opportunity to thank all of my colleagues in the National Aeronautics and Space Administration whose activities catalyzed the formation of the council. I wish to express my appreciation particularly to Dr. George J. Jacobs for his very able scientific and administrative collaboration in this project. It is my sincere hope that the excellent relationships which have been established with the NASA in developing this project will continue to be maintained to insure that the Bio-Instrumentation Advisory Council reaches a optimum level of performance resulting in a substantial improvement in the quality of the instrumentation provided to biological scientists. Needless to say, the dividends would be valuable ones indeed not only for the NASA but for all of the R and D agencies in the federal establishment as well as for the scientific community of the U. S.

Sincerely yours,

S. R. Galler

S. R. GALLER
Head, Biology Branch

Copy to:
Dr. George Jacobs
Code 510